Name(s) of Risk Team Members: G. Murdock , F. Scheifele, A. Etkin			Point Value → Parameter ↓			1			2 3		4				5		
Job Title: Electrical Work, High Energy >600V Job Number or Job Identifier: JRA 5-06			Frequency (B)			ce/ye	ar		<pre><once month<="" pre=""></once></pre>	≤once/week	<once shift<="" td=""><td colspan="2">>once/shift</td></once>			>once/shift			
Job Description: Removal of LOTO of the STAR magnet powers supplies for heat run			Severity (C)				Only	Me	dical Treatment Lost Time		Partial Disability			Death or Permanent Disability			
Training and Procedures List (optional): C-A-OPM 11.4.3.b, STAR Power Supply START-UP Check Off List Approved by: £. Lessard Date: 6-1-06 Rev. 0			od	Extremely Unlikely					Unlikely	Possible	Probable			Multiple			
Stressors (if applicable Noise				Revision (if applicable): Comments:													
Tvoise			Bef	ore A	dditio	nal Co	ontrols		After Addition				al Controls				
Job Step / Task	Hazard Control(s)				Frequency B	Severity C	Likelihood D	Risk* AxBxCxD	Control(s) Ac	Stressors Y/N	# of People A	Frequency B	Severity C	Likelihood D	Risk* AxBxCxD	% Risk Reduction	
STAR Power Supply Operator confirms setpoint of STAR Magnet Power supplies are set to zero	None None		N	1	5	1	1	5									
Enter 2 nd floor of service wing	Noise Hearing protection, training		Y	2	5	1	2	20									
Verify the power supplies have no voltage on voltmeters or red ON lights lit. This will allow easy way to verify supply is off.	None None		Y	2	5	1	1	10									
Verify the 5 power supplies are in Local"	None None		Y	2	5	1	1	10									
Confirm all power supply Kirk keys are captured in the transfer blocks and that the main keys are in the blocks	None None		Y	2	5	1	1	10									

Engage 13.8 kV breaker racking motor mechanisms	Pinch hand	Training and experience	Y	1	5	1	1	5								
Connect 13.8 kV racking motor to power (plug) and remote operating box	Shock	Use of safe electrical equipment, connectors and plugs	Y	1	5	2	1	10								
Release 13.8kV breaker and 480V disconnects Kirk Keys, insert in breaker and disconnects and release mechanisms	None	None	Y	2	5	1	1	10								
Confirm 120 VAC control circuit breakers in PSCP panel are on	None	None	Y	2	5	1	1	10								
Remotely rack in 13.8kV breaker from TEST position	Arc blast	Breaker door closed and locked, remote operation, protection provided by nearby massive power supply cabinets, positioned out of direct line C-AD management has implemented requirements and mechanisms to meet PPE requirements identified in NFPA 70E as of December 22, 2004. Enhanced PPE requirements established April 2006. See Further Description below. Implementation of a plan to meet OSHA's NRTL requirements began June 1, 2005.	Y	2	5	3	2	60	Investigating using TV with audio to permit operation to be performed from outside of the room	N	1	5	1	1	5	92%
Disconnect racking motor power and remote operating box and return to cabinet.		Use of safe electrical equipment, connectors and plugs	Y	1	5	2	1	10								
Remove 13.8kV racking motor mechanisms	Pinch hand	Training and experience	Y	1	5	1	1	5								
Check circuit breaker 41ground fault relay contact are open	None	None	Y	2	5	1	1	10								
Close four magnet power supply fused disconnects (PTT- east and west, Space Trim east and west)	Shock	Training, C-AD management has implemented requirements and mechanisms to meet PPE requirements identified in NFPA 70E as of December 22, 2004. Enhanced PPE requirements established April 2006. Implementation of a plan to meet OSHA's NRTL requirements began June 1, 2005.	Y	1	5	2	1	10								

Close four magnet	Arc Blast	Training, C-AD r	nanagement has implemented	Y	1	5	3	2	30			
power supply fused		requirements and	mechanisms to meet PPE									
disconnects (PTT-		requirements ider	ntified in NFPA 70E as of									
east and west, Space		December 22, 20	04. Enhanced PPE									
Trim east and west)		requirements esta	ıblished April 2006.									
		Implementation of	of a plan to meet OSHA's									
		NRTL requireme	nts began June 1, 2005.									
Verify magnet crash	None	None		Y	2	5	1	1	10			
switch operation												
Further Description of Controls Added to Reduce Risk:												
Temporary Procedure to Open or Close Breakers and Switches to enhance NFPA 70 E PPE requirements, enhanced awareness, PPE labels on breakers, panels or switches												
*Risk:	0 to 20		21 to 40		4	41-60)		61 to 80	81 or grea	ater	

Moderate

Substantial

Intolerable

Negligible

Acceptable